

## CLAIMS

1. A spectacle and contact lens selecting system  
comprising:

5       input means for inputting information related to a state  
of eyes of a user;

eyeball optical model deciding means for deciding an  
eyeball optical model corresponding to the information related  
to the state of the eyes input by the input means;

10       eyeball accommodation range determination means for  
examining optical performance of an eyeball within a range of  
accommodation of the user in the eyeball optical model decided  
by the eyeball optical model deciding means to determine the  
range of accommodation of the eyeball;

15       lens power selecting means for examining optical  
performance when the user wears spectacles or contact lenses  
to select a lens power; and

wearing state display means for generating and displaying  
a wearing state of the spectacles or the contact lenses to be  
20   selected.

2. The spectacle and contact lens selecting system  
according to claim 1, wherein

the input means is configured so as to allow the user to  
input information of the eyes of the user such as a wearing  
25   condition of the user, an age, a near point distance, a far

point distance, or a vision at a constant distance.

3. The spectacle and contact lens selecting system according to claim 1 or 2, wherein

the eyeball optical model deciding means comprises start  
5 eyeball optical model deciding means for deciding a start  
eyeball optical model based on the information of the eyes of  
the user such as an age and an approximated lens power.

4. The spectacle and contact lens selecting system set according to any one of claims 1 to 3, wherein

10 the eyeball optical model deciding means is configured so  
that a focal state in the eyeball of the user at an  
accommodation midpoint calculated from a near point distance  
and a far point distance of the user becomes optimal and/or a  
focal state in the eyeball of the user in a non-accommodative  
15 state calculated from the far point distance of the user  
becomes optimal.

5. The spectacle and contact lens selecting system according to any one of claims 1 to 4, further comprising  
eyeball optical model validity examination means for examining  
20 validity of the eyeball optical model at a limit of  
accommodation on a near point side and/or on a far point side.

6. The spectacle and contact lens selecting system according to any one of claims 1 to 5, wherein

the eyeball accommodation range determination means is  
25 configured to be able to determine a range of accommodation of

optical dimensions of the eyeball at an accommodation midpoint.

7. The spectacle and contact lens selecting system according to any one of claims 1 to 6, further comprising eyeball optical model image generating means for generating  
5 and displaying an image of an eyeball optical model in which the range of accommodation of the eyeball is determined.

8. The spectacle and contact lens selecting system according to any one of claims 1 to 7, further comprising eyeball optical model focal performance examination means for  
10 examining focal performance of the eyeball optical model at a near point or a position within a range of accommodation ability in the vicinity of the near point, at a far point or a position within the range of accommodation ability in the vicinity of the far point, or at a position away from the near  
15 point and the far point in a naked eye state of the user.

9. The spectacle and contact lens selecting system according to claim 8, wherein

the eyeball optical model focal performance examination means comprises means for examining a focal state of the  
20 eyeball optical model of the user at the near point or the position within the range of accommodation ability in the vicinity of the near point, at the far point or the position within the range of accommodation ability in the vicinity of the far point, or the position away from the near point and  
25 the far point after vision correction with the spectacles or

the contact lenses.

10. The spectacle and contact lens selecting system according to any one of claims 1 to 9, wherein

the spectacle and contact lens wearing state display  
5 means comprises sharpness score generating means for generating a sharpness score of visibility of the user before and/or after vision correction with the spectacles or the contact lenses.

11. The spectacle and contact lens selecting system  
10 according to any one of claims 1 to 10, further comprising viewed image generating means for generating an image to be viewed by the user before and/or after vision correction with the spectacles or the contact lenses.

12. The spectacle and contact lens selecting system  
15 according to any one of claims 1 to 11, wherein

the wearing state display means comprises: image acquisition means for acquiring an image of the user; and image synthesizing means for synthesizing an image of spectacles or contact lenses to be selected and the acquired  
20 image of the user.

13. A spectacle and contact lens selecting method comprising the steps of:

inputting information related to a state of eyes of a user;

25 deciding an eyeball optical model corresponding to the

information related to the state of the eyes input by the  
input step;

examining optical performance of an eyeball within a  
range of accommodation of the user in the eyeball optical  
5 model decided by the step of deciding the eyeball optical  
model, to determine the range of accommodation of the eyeball;

examining optical performance when the user wears  
spectacles or contact lenses to select a lens power; and

displaying a wearing state of the spectacles or the  
10 contact lenses to be selected.

14. The spectacle and contact lens selecting method  
according to claim 13, wherein

the input step comprises the step of inputting  
information of the eyes of the user such as a wearing  
15 condition of the user, an age, a near point distance, a far  
point distance, or a vision at a constant distance.

15. The spectacle and contact lens selecting method  
according to claim 13 or 14, wherein

the step of deciding the eyeball optical model comprises  
20 the step of deciding a start eyeball optical model based on  
the information of the eyes of the user such as an age and an  
approximated lens power.

16. The spectacle and contact lens selecting method  
according to any one of claims 13 to 15, wherein

25 the step of deciding the eyeball optical model comprises

the step of deciding the eyeball optical model so that a focal state in the eyeball of the user at an accommodation midpoint calculated from a near point distance and a far point distance of the user becomes optimal and/or a focal state in the  
5 eyeball of the user in a non-accommodative state calculated from the far point distance of the user becomes optimal.

17. The spectacle and contact lens selecting method according to any one of claims 13 to 16, further comprising the step of examining validity of the eyeball optical model at  
10 a limit of accommodation on a near point side and/or on a far point side.

18. The spectacle and contact lens selecting method according to any one of claims 13 to 17, wherein the step of determining the range of accommodation of the  
15 eyeball comprises the step of determining a range of accommodation of optical dimensions of the eyeball at an accommodation midpoint.

19. The spectacle and contact lens selecting method according to any one of claims 13 to 18, further comprising  
20 the step of generating and displaying an image of an eyeball optical model in which the range of accommodation of the eyeball is determined.

20. The spectacle and contact lens selecting method according to any one of claims 13 to 19, further comprising  
25 the step of examining focal performance of the eyeball optical

model at a near point or a position within a range of accommodation ability in the vicinity of the near point, at a far point or a position within the range of accommodation ability in the vicinity the far point, or at a position away  
5 from the near point and the far point in a naked eye state of the user.

21. The spectacle and contact lens selecting method according to claim 20, wherein

the step of examining the focal performance of the  
10 eyeball optical model includes the step of examining a focal state of the eyeball optical model of the user at the near point or the position within the range of accommodation ability in the vicinity of the near point, at the far point or the position within the range of accommodation ability in the  
15 vicinity of the far point, or at the position away from the near point and the far point after vision correction with the spectacles or the contact lenses.

22. The spectacle and contact lens selecting method according to any one of claims 13 to 21, further comprising  
20 the step of generating a sharpness score of visibility of the user before and/or after vision correction with the spectacles or the contact lenses.

23. The spectacle and contact lens selecting method according to any one of claims 13 to 22, further comprising  
25 the step of generating an image to be viewed by the user

before and/or after vision correction with the spectacles or the contact lenses.

24. The spectacle and contact lens selecting method according to any one of claims 13 to 23, wherein

5       the step of generating and displaying the wearing state comprises: the step of acquiring an image of the user; and the step of synthesizing an image of spectacles or contact lenses to be selected and the acquired image of the user.